## **FORM PTO-1449**

PATENTS AND OTHER ITEMS FOR APPLICANT'S

PROPRESSION DISCLOSURE STATEMENT

(Use several sheets if necessary)

<b>ATTY. DOCKET NO.</b> 270/219	<b>SERIAL NO.</b> 10/046,071
APPLICANT: O'CONNOR, Stephen D. 6	et al.
FILING DATE: January 11, 2002	GROUP: 1/3 0P

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EXAMINER	PHE STATE OF THE S		U.S. P	ATENT DOCUMENTS			
XAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	<b>A</b> 1	6,537,506 B1	3/25/2003	Schwalbe et al.	422	130	2/3/2000
·	A2	2002/0192701 A1	12/19/2002	Adey	435	6	8/2/2002
	<b>A</b> 3	6,494,614 B1	12/17/2002	Bennett et al.	366	336	9/21/1999
	A4	6,482,306 B1	11/19/2002	Yager et al.	204	600	9/22/1999
	A5	6,409,832 B2	6/25/2002	Weigl et al.	117	206	3/30/2001
	A6	2002/0076350 A1	6/20/2002	Weigl et al.	422	58	9/18/2001
	A7	2002/0048535 A1	4/25/2002	Weigl et al.	422	100	9/18/2001
	A8	2001/0048900 A1	12/6/2001	Bardell et al.	422	100	5/23/2001
	A9	2001/0048637 A1	12/6/2001	Weigl et al.	366	341	5/24/2001
<del></del>	A10	6,287,520 B1	9/11/2001	Parce et al.	422	100	1/21/2000
	A11	6,235,471 B1	5/22/2001	Knapp et al.	435	6	4/3/1998
	A12	6,193,471 B1	2/27/2001	Paul	417	53	6/30/1999
	A13	6,186,660 B1	2/13/2001	Kopf-Sill et al.	366	340	7/26/1999
	A14	5,945,203	8/31/1999	Soane	428	209	10/14/1997
<del></del>	A15	5,932,799	8/3/1999	Moles	73	53.01	7/21/1997
	A16	5,932,315	8/3/1999	Lum et al.	428	172	4/30/1997
-	A17	5,904,824	5/18/1999	Oh	204	601	3/7/1997
	A18	5,882,571	3/16/1999	Kaltenbach et al.	264	400	3/27/1997
	A19	5,882,465	3/16/1999	McReynolds	156	285	6/18/1997
	A20	5,872,010	2/16/1999	Karger et al.	436	173	7/3/1996
	A21	5,849,208	12/15/1998	Hayes et al.	216	94	9/7/1995
	A22	5,658,515	8/19/1997	Lee et al.	264	219	9/25/1995
	A23	5,640,995	6/24/1997	Packard et al.	137	597	3/14/1995
V A BELL 1	A24	5,545,367	8/13/1996	Bae et al.	264	401	5/27/1993
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DATE CONSIDERED: 7-15-2004

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## **FORM PTO-1449** ATTY. DOCKET NO. SERIAL NO. 270/219 10/046,071 SESE PATENTS AND OTHER ITEMS FOR APPLICANT'S FORMATION DISCLOSURE STATEMENT (Use several sheets if necessary) APPLICANT: O'CONNOR, Stephen D. et al. **FILING DATE: GROUP:** January 11, 2002

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	U.S. PATENT DOCUMENTS  EXAMPLE SUB FILING						
EXAMINER INITIALS		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	A25	5,443,890	8/22/1995	Öhman	428	167	2/4/1992
	A26	5,385,709	1/31/1995	Wise et al.	422	98	6/24/1993
·	A27	5,376,252	12/27/1994	Ekström et al.	204	299 R	11/10/1992
	A28	5,230,866	7/27/1993	Shartle et al.	422	103	3/1/1991
	A29	5,222,808	6/29/1993	Sugarman et al.	366	274	4/10/1992
	A30	5,194,133	3/16/1993	Clark et al.	204	299 R	5/3/1991

	FOREIGN PATENT DOCUMENTS						
EXAMINER INITIALS	-	DOCUMENT NUMBER	DATE	COUNTRY	NAME	TRANSL YES	ATION? NO
	Bl	WO 02/10732 A1	2/7/2002	WIPO	Ausserer et al.		
	B2	WO 00/22436	4/20/2000	WIPO	McNeely et al.		
	В3	WO 00/21659	4/20/2000	WIPO	Burdon et al.		
	B4	EP 0 933 126 A1	8/4/1999	EPC	Winkler et al.		
	B5	WO 99/17093	4/8/1999	WIPO	Handique et al.		
	В6	EP 0 107 631 A2	5/2/1984	EPC	Ruzicka et al.		

EXAMINER NON PATENT LITERAT		NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)
	<b>C</b> 1	Stroock, Abraham D. et al., "Chaotic Mixer for Microchannels," Science Magazine, Vol. 295, pp. 647-651, January 25, 2002
	C2	Liu, Robin H. et al., "Plastic In-Line Chaotic Micromixer for Biological Applications," Micro Total Analysis Systems, J.M. Ramsey and A. van den Berg (eds.), 2001 Kluwer Academic Publishers, The Netherlands, pp. 163- 164
	<b>C</b> 3	Jacoby, Mitch, Chemistry Flows Like Clockwork - Flow system used to make simple devices for time-dependent studies, "Chemical & Engineering News," February 24, 2003, p.5
	<b>C</b> 4	Deshmukh, Ajay A. et al., A.P. (2000), "Continuous Micromixer with Pulsatile Micropumps," Solid-State Sensor and Actuator Workshop, Hilton Head Island, SC, USA, 4-8 June 2000, pp. 73-76
	C5	Martin, P.M. et al., Laser micromachined and laminated microchannel components for chemical sensors and heat transfer applications, "Micromachined Devices and Components III," SPIE – The International Society for Optical Engineering, Vol. 3224, Bellingham, Washington, USA, pp. 258-265
	C6	Tracey, M.C. et al., "Microfluidic Mixer Employing Temporally-Interleaved Liquid Slugs and Parabolic Flow,"  Micro Total Analysis Systems, J.M. Ramsey and A. van den Berg (eds.), 2001 Kluwer Academic Publishers, The  Netherlands, pp. 141-142

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EXAMINER	& TREE	NON PATENT LITERATURE DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)
	C7	Ehrfeld, W. et al., Potentials and Realization of Microreactors, "DECHEMA Monographs," Vol. 132, VCH Verlagsgesellschaft, 1996, pp. 1-28
	C8	Johnson, Timothy J. et al., Rapid Microfluidic Mixing, "Analytical Chemistry," Vol. 74, No. 1, January 1, 2002, pp. 45-51
	C9	Verpoorte, Elisabeth M.J. et al., "Silicon-Based Chemical Microsensors and Microsystems," Interfacial Design and Chemical Sensing, American Chemical Society, 1994, Chapter 21, pp. 244-254
	C10	Yang, Xing et al., "A MEMS Thermopneumatic Silicone Membrane Valve," (1998) Sensors and Actuators A:
	CIO	Physical, Vol. 64, pp. 101-108  Schulte, Thomas, "The Development of Practical Microfluidic-Based Systems for Chemical and Blood Analysis,"
<u> </u>	<b>C</b> 11	(1999) in Drug Discovery Technology for the New Millennium Chapter 13, pp. 127-135. Conference proceeding: IBC USA Conferences, Inc.: 4 <sup>th</sup> Annual Conference on Microfabrication and Microfluidic Technologies
	C12	Becker, Holger et al., "Silicon as Tool Material for Polymer Hot Embossing," (1999) Proceedings MEMS '99 Orlando, 228-231
	C13	Jeon, Noo Li et al., "Large-Area Patterning by Vacuum-Assisted Micromolding," (1999) Adv. Mater. 11, No. 11:946-950
-	C14	Jackman, Rebecca J., et al., "Electrochemistry and soft lithograph: A route to 3-D microstructures", (May 1999) Chemtech 18-30.
	C15	Folch, A., et al., "Molding of Deep Polydimethylsiloxane Microstructures for Microfluidics and Biological Applications" (Feb 1999) Journal of Biomechanical Engineering 121:28-34.
	C16	Duffy, David C., et al., "Rapid Prototyping of Microfluidic Systems in Poly(dimethylsiloxane)", (Dec 1998) Analytical Chemistry 70:4974:4984.
	C17	Grzybowski, B. A., et al., "Generation of Micrometer-Sized Patterns for Micranalytical Applications Using a Laser Direct-Write Method and Microcontact Printing", (Nov 1998) Analytical Chemistry 70:4645-4652.
!	C18	Gonzalez, C., et al., "Fluidic interconnects for modular assembly of Chemical Microsystems", (Jan 1998) Sensors and Actuators B 49:40-45.
	C19	Qin, Dong, et al., "Microfabrication, Microstructures and Microsystems", (1998) Topics in Current Chemistry 194:1-19.
	C20	Fuhr, G., et al., "Biological Application of Microstructures", (1998) Topics in Current Chemistry 194:83-116.
	C21	Cordova, Emilio, et al., "Noncovalent Polycationic Coatings for Capillaries in Capillary Electrophoresis of Proteins" (April 1997) Analytical Chemistry 69:1370-1379.
	C22	McCormick, Randy M., et al., "Microchannel Electrophoretic Separations of DNA in Injection-Molded Plastic Substrates" (Dec 1997) Analytical Chemistry 69:2626-2630.
	C23	Martynova, Larisa et al., "Fabrication of Plastic Microfluid Channels by Imprinting Methods" (1997) Anal. Chem. 69:4783-4789.
	C24	Kovacs, Gregory T.A., et al., "Silicon Micromachining Sensors to Systems" (July 1996) Analytical Chemistry News & Features 407A-412A.
	C25	Shoji, Shuchi, et al., "Microflow Devices and Systems" (Oct 1994) J. Micromech. Microeng. 4:157-171.
	C26	Schomburg, W.K., et al., "Microfluidic Components in LIGA Technique" (Feb 1994) J. Micromech. Microeng. 4:186-191.
	C27	Verpoorte, Elisabeth M.J., et al., "Three-Dimensional Micro Flow Manifolds for Miniaturized Chemical Analysis Systems" (Oct 1994) J. Micromech. Microeng. 4:246-256.

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